**IGCSE chemistry revision difficult topics**

1. **Electrolysis**

For each of the electrolysis reactions below, draw an labeled electrolytic cell showing the products formed at each electrode and the half equations.

Once you have finished all 4 reactions discus your answers with your neighbour.

|  |
| --- |
| a. molten magnesium oxide |
| b. copper sulphate solution |
| c. dilute sulphuric acid |
| d. dilute hydrochloric acid |

1. **Equilibria**

For each of the following equilibrium reactions state by using the terms increase or decrease what effect an increase in temperature, an increase in pressure and adding a catalyst has on the amount of product formed.

|  |  |  |  |
| --- | --- | --- | --- |
| Reaction | Increase in temperature | Increase in pressure | Adding a catalyst |
| 3H2 (g) + N2 (g) ⇔ 2NH3 (g)  ΔH = -92 kJ mol-1 |  |  |  |
| 2SO2 (g) + O2 (g) ⇔ 2SO3 (g)  ΔH = -197 kJ mol-1 |  |  |  |
| 4NH3 (g) + 5O2 (g) ⇔ 4NO (g) + 6H2O (g)  ΔH = -910 kJ mol-1 |  |  |  |
| H2O(g) + C (s) ⇔ CO (g) + H2 (g)  ΔH = +130 kJ mol-1 |  |  |  |

1. **Polymerization**

Complete both tables below

Addition polymers: using double bonds in same monomer

|  |  |  |  |
| --- | --- | --- | --- |
| monomer | | polymer | |
| displayed formula | name | displayed formula | name |
|  | Ethane |  |  |
|  | chloroethene |  |  |
|  | propene |  |  |

Condensation polymers: produce small molecules and two different monomers

|  |  |  |  |
| --- | --- | --- | --- |
| monomer | | polymer | |
| displayed formula | type of monomer | displayed formula | name |
|  |  |  | |
|  |  |